Alberta
MUNICIPAL AFFAIRS

Safety Services

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# STATISTICS

## *RE: ELECTRICAL INCIDENTS IN ALBERTA*

## 1998 04 01 to 1999 03 31

Alberta regulation requires that all electrical accidents and power line contacts be reported to the Technical Administrator. Alberta Municipal Affairs has compiled a summary report of those incidents reported between April 1, 1998 and March 31, 1999. Organizations in the electrical industry use this information for promoting public awareness of electrical safety risks in order to reduce electrical incidents. The report presents the information in a series of tables, text, and charts:

(1) **Injury Incidents** - Pages 2, 3 and 4 summarize all fatal and non-fatal injury incidents reported in the period indicated above. Page 2 is a table outlining the persons, voltages and equipment involved in the incidents. The report provides a brief description of injury incidents, in chronological order, on pages 3 and 4.

(2) **Power Line Contacts** - Pages 5, 6 and 7 summarize the power line contacts reported. The table on page 5 shows different types of power line contacts and the number of fatal and non-fatal injuries incurred for each type of contact. A table and two charts, on pages 6 and 7, compares historical information regarding power line contacts with current statistics.

Because not all incident occurrences are reported, this report is not an accurate accounting of all of the incidents that occurred in Alberta. It does serve as an approximation of the total number of incidents that may have occurred, and provides a sample of the types of accidents that occurred.

M.G. Gardner
Utility Coordinator

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# INJURY INCIDENTS REPORTED
# 1998 04 01 TO 1999 03 31

FATAL (F)
NON-FATAL (N)

## 1. PERSONS INVOLVED

| A. Performing electrical work | F | N |
|---|---|---|
| 1. Qualified electrical workers | 1 | 8 |
| 2. Qualified power electricians/lineman | | 1 |
| 3. Non-qualified person | | |

| B. Not performing electrical work | F | N |
|---|---|---|
| 1. Male | 2 | 13 |
| 2. Female | | |
| 3. Child | | |

## 2. VOLTAGES INVOLVED

| A. Systems or equipment (not power line contacts) | F | N |
|---|---|---|
| 1. 750 volts or less | 2 | 5 |
| 2. Over 750 volts | | 4 |

| B. Contact with power lines (not included in A) | F | N |
|---|---|---|
| 1. 750 volts or less | | 2 |
| 2. Over 750 volts | 1 | 11 |

## 3. SYSTEMS OR EQUIPMENT INVOLVED

| A. Interior wiring system | F | N |
|---|---|---|
| 1. Service/distribution equipment | | 3 |
| 2. Motor control equipment | | 2 |
| 3. Switches, Fixtures, etc. | | 1 |
| 4. Test equipment | | |
| 5. General wiring/conductors | | |
| 6. Other equipment | 1 | |

| B. Line construction or maintenance | F | N |
|---|---|---|
| 1. Overhead Systems (poles, lines, etc.) | | 3 |
| 2. Substations and transformers | | 1 |
| 3. Underground systems | | 1 |
| 4. Other | | |

| C. Utilization equipment | F | N |
|---|---|---|
| 1. Household appliances | 1 | |
| 2. Commercial/industrial equipment | | |
| 3. Portable power tools | | |
| 4. Extension cords | | |
| 5. Welding Machines / motors | | |
| 6. Mobile Homes and Trailers | | |
| 7. Signs | | |
| 8. Other | | |

| D. Non-electrical equipment | F | N |
|---|---|---|
| 1. Cranes/booms/pickers | | 3 |
| 2. Ladders/scaffolds | 1 | 2 |
| 3. Drilling Rig equipment | | |
| 4. Farm equipment | | |
| 5. Moving buildings | | |
| 6. Objects (pipe, antennae, etc.) | | |
| 7. Excavating equipment | | 1 |
| 8. Vehicles (high loads, truck boxes, etc.) | | |
| 9. Other | | 5 |

# SUMMARY OF INJURY INCIDENTS

## Fatal Injuries

| | |
|---|---|
| April/98 | 1. A man was electrocuted when a hair dryer fell into his bathtub. |
| June/98 | 2. A worker installing eavestroughing was electrocuted when his extension ladder contacted an 8 000 volt overhead power line. |
| October/98 | 3. An electrician was killed after falling 40 feet from an extension ladder situated on a catwalk. He had been working on a light fixture (575 open circuit voltage) when he received a shock and sustained burns to both hands and one foot. |

## Non-Fatal Injuries

| | |
|---|---|
| April/98 | 1. A power lineman received an electrical shock and burns when re-energizing a 14 000 volt power line after taking transformer oil samples. |
| May/98 | 2. A lineman received an electrical shock while opening a breaker. |
| | 3. An electrician received a shock and burns to his fingers when a ground conductor contacted the line side of a bus in an MCC. |
| June/98 | 4. A homeowner received an electrical shock while cutting down a tree in his yard. The tree had fallen into a 14 400 volt power line. |
| | 5. An electrician received a shock and burns to face, back, chest, and arms when removing a breaker in a distribution panel. A bus to breaker link was loose, slipped and made contact between phases. |
| | 6. A worker received a shock and burns to his hand and foot when a conveyor boom used to deliver shingles contacted a 25 000 volt overhead power line. |
| | 7. Two workers received a shock and one received burns to his hands. The workers were unloading construction materials from a truck with a crane when the boom contacted a 25 000 volt overhead power line. |
| July/98 | 8. Two iron workers received a shock and one worker received burns to his arms, hands, and face when a 10 metre high rolling scaffold was pushed into a 13 200 volt power line. |
| | 9. A communication utility worker received injuries to his hand, arm, and shoulder when thrown against the back wall of a manhole. Lightning activity was prevalent in the area at the time of the incident. |
| | 10. An apprentice received burns to his hand when working in a 480 volt MCC. |
| September/98 | 11. A worker received a shock and burns to both hands and one leg when a metal pipe used for testing moisture in a feed bin came in contact with a 25 000 volt power line. |
| | 12. A homeowner, attempting to trim a tree, received a shock and fell out of the tree. |
| | 13. An individual in a bucket truck received a shock when attempting to remove a fallen tree from a 14 400 volt overhead power line. |

November/98

14. A worker received a shock after touching a metal fence post stake that had been driven into an underground street lighting cable.

15. A worker received a shock after stepping on an energized 7 600 volt cable splice in a trench.

December/98

16. A journeyman electrician received flash burns to his eyes and left hand when a breaker was turned on in a 600 volt main panel.

February/99

17. A man received electrical burns to his hand when handling a load being lifted by a track hoe, which contacted a 14 400 overhead power line.

March/99

18. An electrician received burns to his fingers when attempting to strip insulation off an energized 347 volt conductor.

19. A person received an electrical shock when plugging an electrical cord into a kettle.

20. A lineman received burns to both hands and broke a leg falling off a pole, when working on a 25 000 volt transformer.

21. A homeowner received a shock when touching a tree that had fallen into a 14 000 volt overhead power line.

22. A fire fighter received a slight shock when attempting to put out a fire around a power pole.

## LIVESTOCK

July/98

1. A cow was electrocuted as a result of overgrown trees contacting an 8 000 volt overhead power line.

# Reported Electrical Power Line Contacts
## 1998 04 01 to 1999 03 31

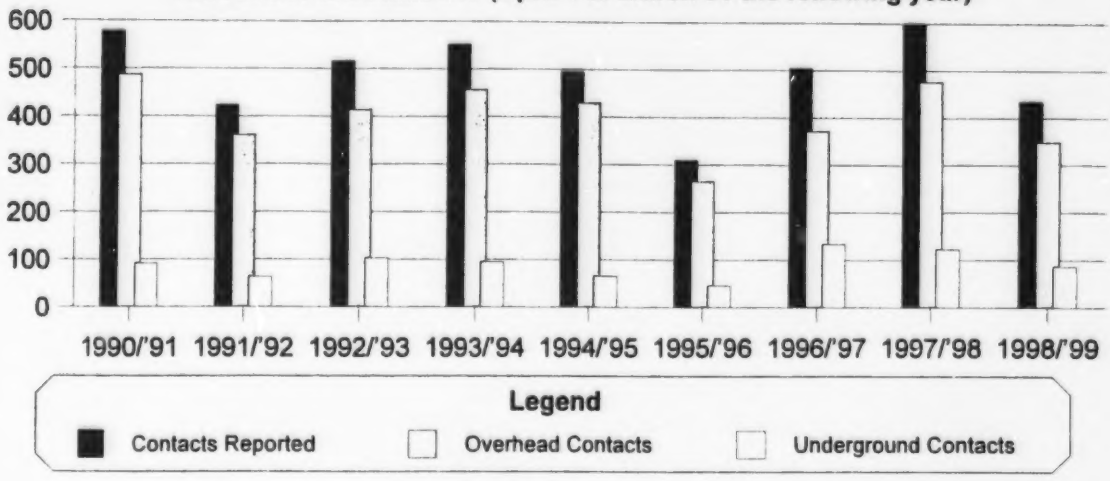
| TYPE OF CONTACT OR DAMAGE | # OF LINE CONTACTS | NON-FATAL INJURIES | FATAL INJURIES |
|---|---|---|---|
| **Overhead Utility Systems** | | | |
| Equipment (booms, hoists, cranes, etc) mounted on a truck or track | 58 | 3 | |
| Brushing or trimming trees | | | |
| a) arborists | 2 | | |
| b) others | 30 | 4 | |
| Vehicles out of control | 48 | | |
| Trucks with raised boxes and vehicles transporting high loads | 63 | | |
| Excavating or earth moving vehicles | 51 | | |
| Farm implements | 39 | | |
| Relocating structures (grain bins, etc.) | 10 | | |
| Drilling and seismic equipment | 10 | | |
| Aircraft, parachutes, kites, etc. | 6 | | |
| Other inadvertent contacts by individuals | 32 | 8 | 1 |
| **Total** | **349** | **15** | **1** |
| **Underground Utility Systems** | | | |
| Excavating equipment | 72 | | |
| Vehicles hitting transformers, pedestals, etc. | 8 | | |
| Others | 6 | 3 | |
| **Total** | **86** | **3** | **0** |

# POWER LINE CONTACTS HISTORICAL SUMMARY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | '90/'91 | '91/92 | '92/93 | '93/'94 | '94/'95 | '95/'96 | '96/'97 | '97/98 | '98/'99 |
| Overhead (O/H) contacts | 487 | 361 | 414 | 457 | 430 | 265 | 371 | 477 | 349 |
| Underground (U/G) contacts | 91 | 63 | 102 | 95 | 65 | 45 | 133 | 122 | 86 |
| **Total Reported Contacts** | **578** | **424** | **516** | **552** | **495** | **310** | **504** | **599** | **435** |
| Fatalities (O/H contacts) | 2 | 0 | 4 | 3 | 0 | 0 | 1 | 7 | 1 |
| Fatalities (U/G contacts) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total Reported Fatalities** | **2** | **0** | **4** | **3** | **0** | **0** | **1** | **7** | **1** |
| Injuries (O/H contacts) | 10 | 16 | 11 | 15 | 7 | 2 | 6 | 14 | 15 |
| Injuries (U/G contacts) | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 2 | 3 |
| **Total Reported Non- Fatal Injuries** | **11** | **16** | **14** | **15** | **7** | **2** | **6** | **16** | **18** |

## Power Line Contacts

**HISTORICAL SUMMARY (April 1 to March 31 the following year)**




## Power Line Contacts

**INJURIES HISTORY (April 1 to March 31 of the following year)**